

10/586262

***** QUERY RESULTS *****
(NARROW SEARCH)

⇒ d his 16

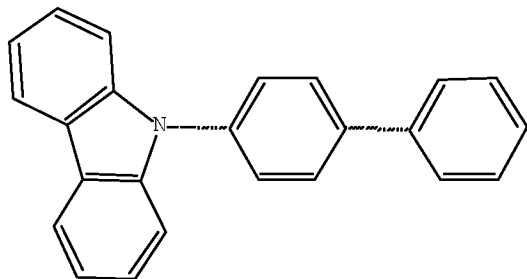
(FILE 'REGISTRY' ENTERED AT 13:09:28 ON 23 SEP 2008)
SAVE TEMP L5 GAR262REGL4/A

FILE 'HCAPLUS' ENTERED AT 13:12:07 ON 23 SEP 2008

L6 1 S L5

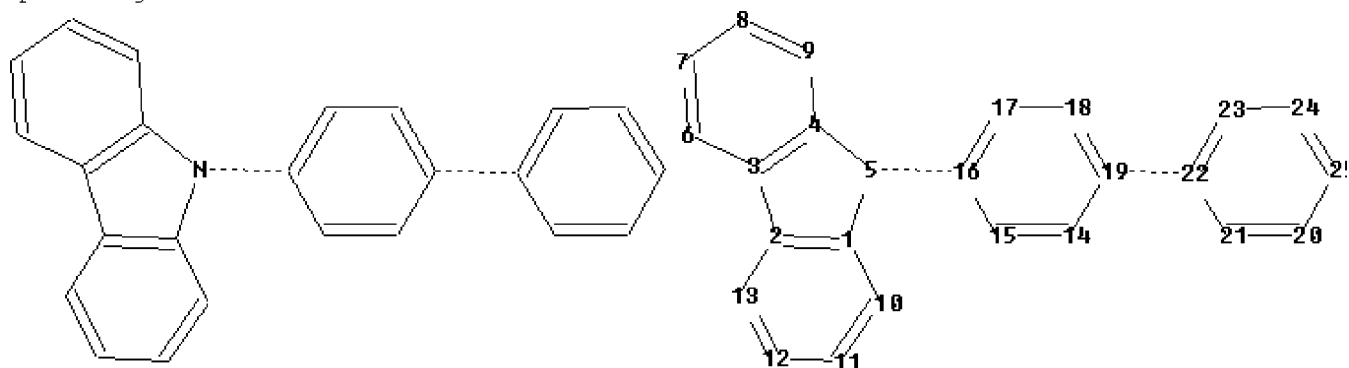
⇒ d que 16

L1 STR



Structure attributes must be viewed using STN Express query preparation:

Uploading L2.str



ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25

chain bonds :

5-16 19-22

ring bonds :

1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25

exact/norm bonds :

1-5 4-5 5-16 19-22

exact bonds :

2-3

normalized bonds :

1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25

isolated ring systems :

10/586262

containing 1 : 14 : 20 :

Match level :

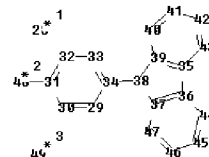
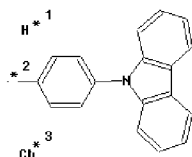
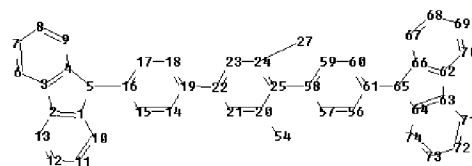
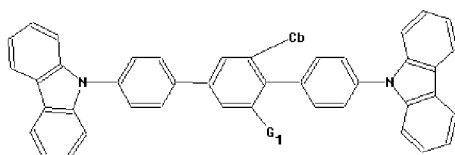
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom

L2 642 SEA FILE=REGISTRY SSS FUL L1
L3 STR

□ STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation:

Uploading L4.str



chain nodes :

27 28 48 49 54

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
56 57 58 59
60 61 62 63 64 65 66 67 68 69 70 71 72 73 74

chain bonds :

5-16 19-22 20-54 24-27 25-58 31-48 34-38 61-65

ring bonds :

1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25
29-30 29-34
30-31 31-32 32-33 33-34 35-36 35-39 35-43 36-37 36-44 37-38 37-47 38-39
39-40 40-41
41-42 42-43 44-45 45-46 46-47 56-57 56-61 57-58 58-59 59-60 60-61 62-63
62-66 62-70 63-64
63-71 64-65 64-74 65-66 66-67 67-68 68-69 69-70 71-72 72-73 73-74

exact/norm bonds :

1-5 4-5 5-16 20-54 34-38 37-38 38-39 61-65 64-65 65-66

exact bonds :

2-3 19-22 24-27 25-58 31-48 35-36 62-63

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normalized bonds :

1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25 29-30 29-34
 30-31 31-32
 32-33 33-34 35-39 35-43 36-37 36-44 37-47 39-40 40-41 41-42 42-43 44-45
 45-46 46-47 56-57
 56-61 57-58 58-59 59-60 60-61 62-66 62-70 63-64 63-71 64-74 66-67 67-68
 68-69 69-70
 71-72 72-73 73-74

isolated ring systems :

containing 1 : 14 : 20 : 29 : 35 : 56 : 62 :

G1:[*1],[*2],[*3]

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
 20:Atom 21:Atom
 22:Atom 23:Atom 24:Atom 25:Atom 27:Atom 28:CLASS 29:Atom 30:Atom 31:Atom
 32:Atom 33:Atom
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 45:Atom 46:Atom 47:Atom 48:CLASS 49:Atom 54:CLASS 56:Atom 57:Atom 58:Atom
 59:Atom 60:Atom
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 72:Atom 73:Atom 74:Atom

Generic attributes :

27:

Number of Carbon Atoms : 7 or more

49:

Number of Carbon Atoms : 7 or more

L5 8 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

L6 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L5

⇒ d 16 ibib abs hitstr

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:697162 HCAPLUS Full-text

DOCUMENT NUMBER: 143:182921

TITLE: Host material for organic electroluminescent device

INVENTOR(S): Nakamura, Hiroaki; Arakane, Takashi; Iwakuma, Toshihiro; Ikeda, Kiyoshi; Ikeda, Hidetsugu; Kubota, Mineyuki

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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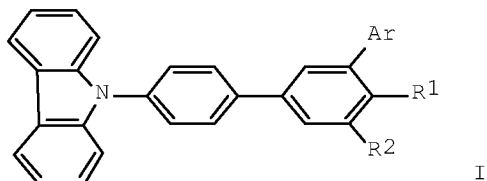
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    GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
    LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
    NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
    TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
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    EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
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EP 1708547      A1      20061004      EP 2005-703759      20050118
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CN 1934908      A      20070321      CN 2005-80008607      20050118
US 20070116982      A1      20070524      US 2006-586262      20060718
IN 2006CN02686      A      20070608      IN 2006-CN2686      20060721
PRIORITY APPLN. INFO.:
                                JP 2004-12630      A      20040121
                                WO 2005-JP522      W      20050118

OTHER SOURCE(S):      MARPAT 143:182921
GI

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AB A compound which is used for organic electroluminescent device (EL) having a long luminescent life and excellent heat resistance. It is a host material for organic electroluminescent devices which comprises a carbazole derivative represented by the general formula (I), where one of R1 and R2 is a group represented by the structural formula (1-phenyl-4-yl)fluorine (II), and the other is a group represented by the structural formula (II), hydrogen, or aryl having 6 to 50 nucleus carbon atoms; and Ar is (un)substituted aryl having 6 to 60 nucleus carbon atoms, provided that Ar is neither Ph, 4-biphenyl, 4-terphenyl, nor 4-quaterphenyl and that when R1 is hydrogen and R2 is a group represented by the structural formula (II), then Ar is not 3,5-diphenylphenyl.

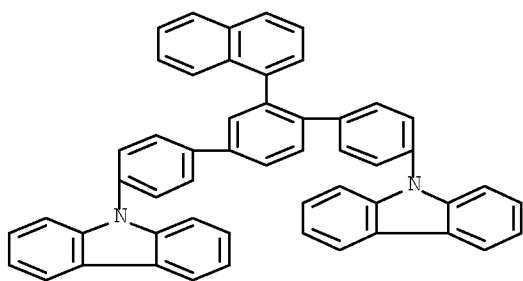
IT 861213-06-1 861213-07-2 861213-08-3
861213-09-4 861213-10-7 861213-11-8
861213-12-9

RL: DEV (Device component use); USES (Uses)
(host material for organic electroluminescent device)

RN 861213-06-1 HCAPLUS

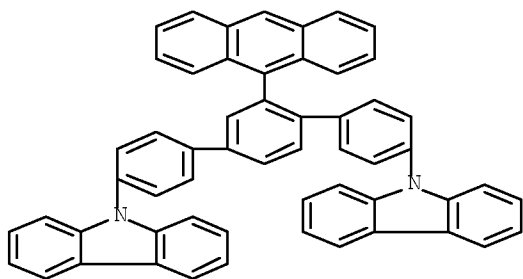
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10/586262



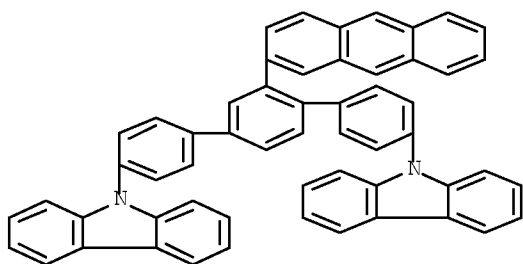
RN 861213-07-2 HCAPLUS

CN 9H-Carbazole, 9,9'-[2'-(9-anthracenyl)[1,1':4',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)



RN 861213-08-3 HCAPLUS

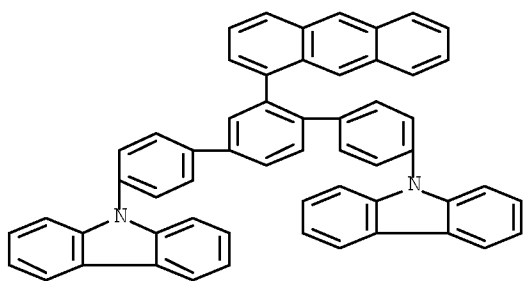
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RN 861213-09-4 HCAPLUS

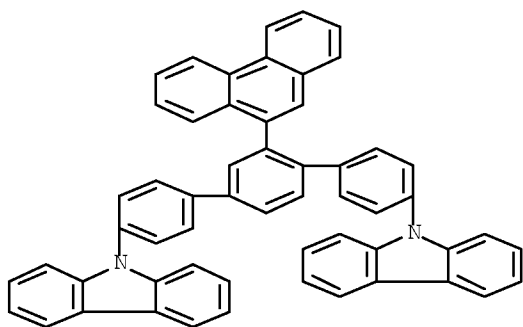
CN 9H-Carbazole, 9,9'-[2'-(1-anthracenyl)[1,1':4',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)

10/586262



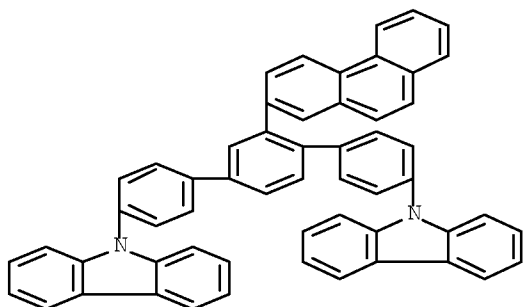
RN 861213-10-7 HCAPLUS

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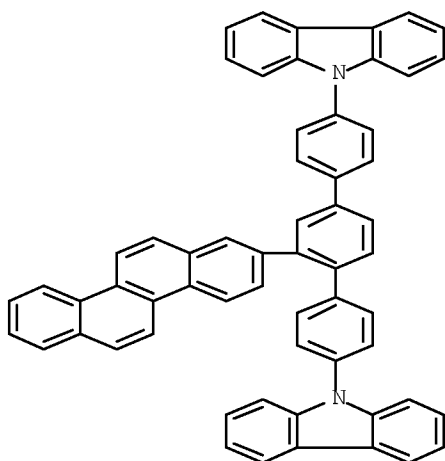
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RN 861213-12-9 HCAPLUS

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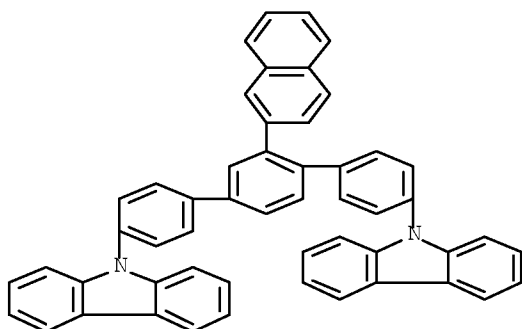


IT 861213-05-0P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(host material for organic electroluminescent device)

RN 861213-05-0 HCAPLUS

CN 9H-Carbazole, 9,9'-[2'-(2-naphthalenyl)[1,1':4',1''-terphenyl]-4,4''-
diyl]bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

6

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/586262

***** QUERY RESULTS *****
(CLAIM 2-6)

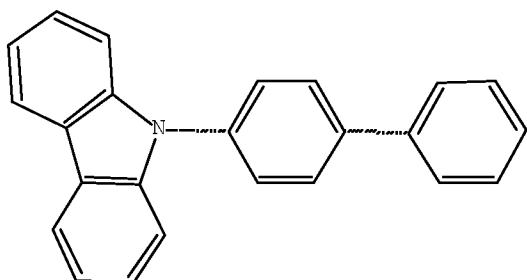
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(FILE 'HCAPLUS' ENTERED AT 13:37:34 ON 23 SEP 2008)

L29 2 S L28

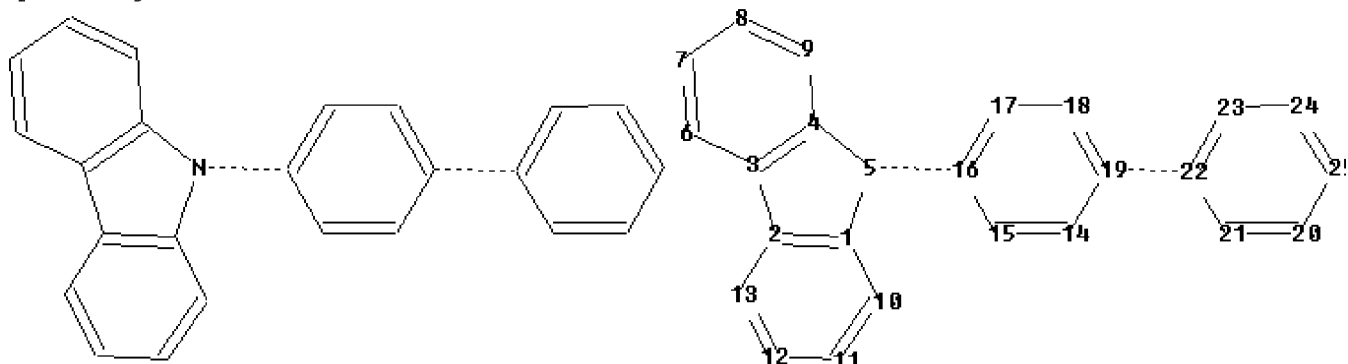
=> d que 129

L1 STR



Structure attributes must be viewed using STN Express query preparation:

Uploading L2.str



ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25

chain bonds :

5-16 19-22

ring bonds :

1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25

exact/norm bonds :

1-5 4-5 5-16 19-22

exact bonds :

2-3

normalized bonds :

1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25

isolated ring systems :

containing 1 : 14 : 20 :

Match level :

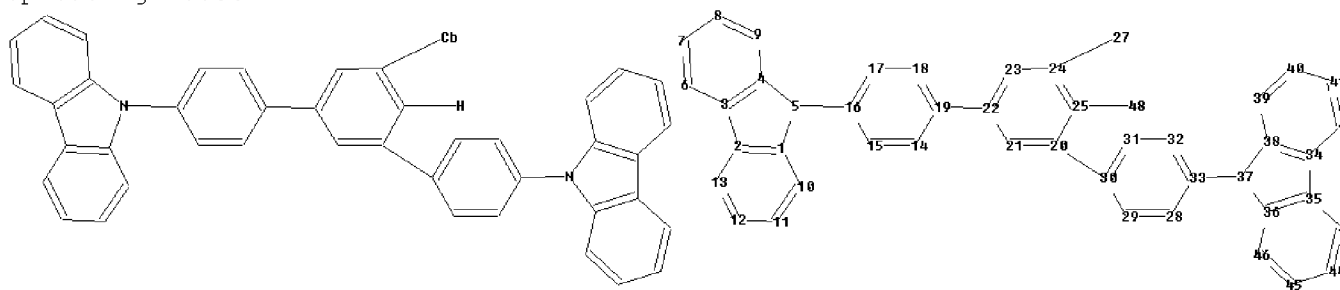
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom

L2 642 SEA FILE=REGISTRY SSS FUL L1
L3 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation:

Uploading L5.str



chain nodes :

27 48

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

chain bonds :

5-16 19-22 20-30 24-27 25-48 33-37

ring bonds :

1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25
28-29 28-33
29-30 30-31 31-32 32-33 34-35 34-38 34-42 35-36 35-43 36-37 36-46 37-38
38-39 39-40
40-41 41-42 43-44 44-45 45-46

exact/norm bonds :

1-5 4-5 5-16 33-37 36-37 37-38

exact bonds :

2-3 19-22 20-30 24-27 25-48 34-35

normalized bonds :

1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25 28-29 28-33
29-30 30-31
31-32 32-33 34-38 34-42 35-36 35-43 36-46 38-39 39-40 40-41 41-42 43-44
44-45 45-46

isolated ring systems :

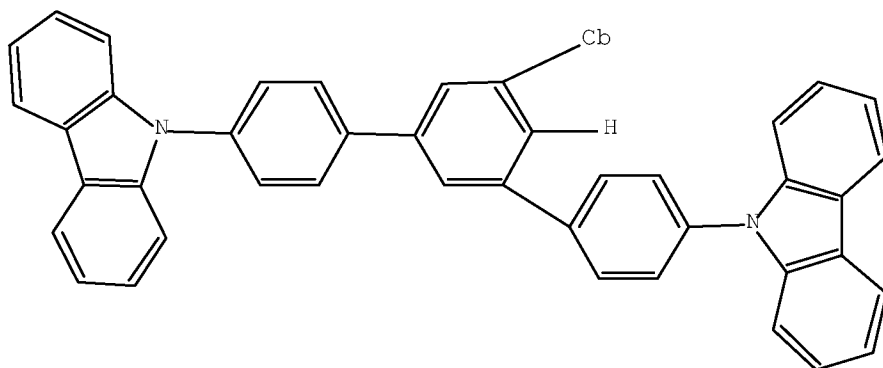
containing 1 : 14 : 20 : 28 : 34 :

Match level :

10/586262

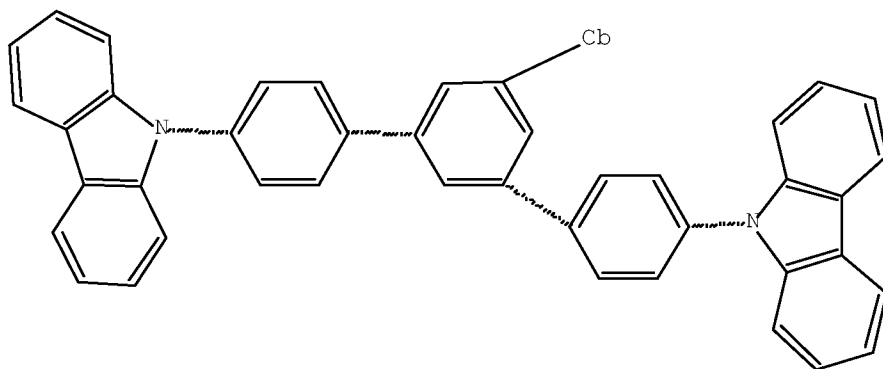
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11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom
32:Atom 33:Atom
34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom 40:Atom 41:Atom 42:Atom
43:Atom 44:Atom
45:Atom 46:Atom 48:CLASS
Generic attributes :
27:
Number of Carbon Atoms : 7 or more

L5 8 SEA FILE=REGISTRY SUB=L2 SSS FUL L3
L20 STR



Structure attributes must be viewed using STN Express query preparation.

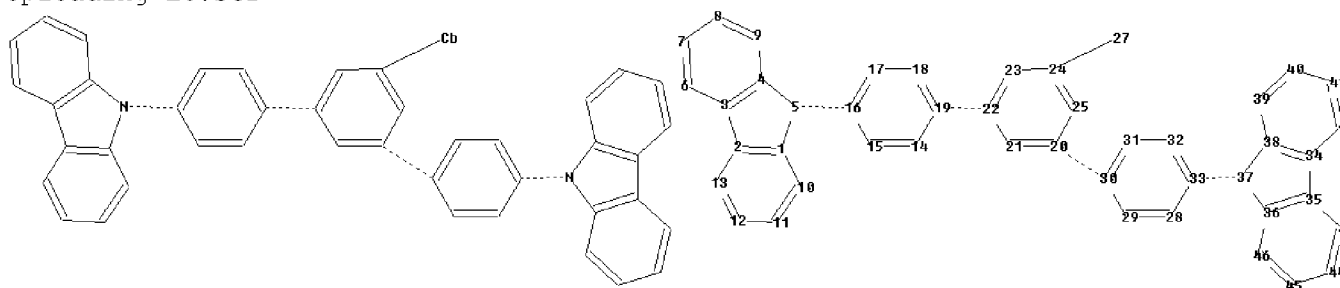
L22 9 SEA FILE=REGISTRY SUB=L2 SSS FUL L20
L23 9 SEA FILE=REGISTRY ABB=ON PLU=ON L22 NOT L5
L25 STR



10/586262

Structure attributes must be viewed using STN Express query preparation:

Uploading L6.str



chain nodes :

27

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

chain bonds :

5-16 19-22 20-30 24-27 33-37

ring bonds :

1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25
28-29 28-33
29-30 30-31 31-32 32-33 34-35 34-38 34-42 35-36 35-43 36-37 36-46 37-38
38-39 39-40
40-41 41-42 43-44 44-45 45-46

exact/norm bonds :

1-5 4-5 5-16 19-22 20-30 33-37 36-37 37-38

exact bonds :

2-3 24-27 34-35

normalized bonds :

1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25 28-29 28-33
29-30 30-31
31-32 32-33 34-38 34-42 35-36 35-43 36-46 38-39 39-40 40-41 41-42 43-44
44-45 45-46

isolated ring systems :

containing 1 : 14 : 20 : 28 : 34 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom
32:Atom 33:Atom
34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom 40:Atom 41:Atom 42:Atom
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45:Atom 46:Atom

Generic attributes :

27:

Saturation : Unsaturated

Number of Carbon Atoms : 7 or more

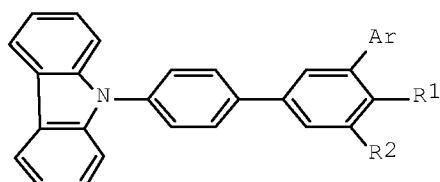
Type of Ring System : Polycyclic

L27 9 SEA FILE=REGISTRY SUB=L2 SSS FUL L25
 L28 9 SEA FILE=REGISTRY ABB=ON PLU=ON L27 OR L23
 L29 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L28

=> d 129 1-2 ibib abs hitstr

L29 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:697162 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:182921
 TITLE: Host material for organic electroluminescent device
 INVENTOR(S): Nakamura, Hiroaki; Arakane, Takashi; Iwakuma, Toshihiro; Ikeda, Kiyoshi; Ikeda, Hidetsugu; Kubota, Mineyuki
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 37 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005072017	A1	20050804	WO 2005-JP522	20050118
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1708547	A1	20061004	EP 2005-703759	20050118
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			WO 2005-JP522	W 20050118
OTHER SOURCE(S):			MARPAT 143:182921	
GI				



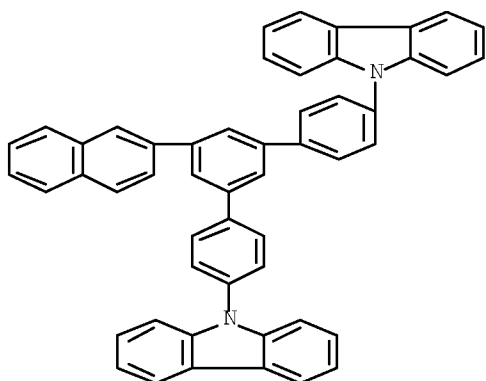
I

AB A compound which is used for organic electroluminescent device (EL) having a long luminescent life and excellent heat resistance. It is a host material for organic electroluminescent devices which comprises a carbazole derivative represented by the general formula (I), where one of R1 and R2 is a group represented by the structural formula (1-phenyl-4-yl)fluorene (II), and the other is a group represented by the structural formula (II), hydrogen, or aryl having 6 to 50 nucleus carbon atoms; and Ar is (un)substituted aryl having 6 to 60 nucleus carbon atoms, provided that Ar is neither Ph, 4-biphenyl, 4-terphenyl, nor 4-quaterphenyl and that when R1 is hydrogen and R2 is a group represented by the structural formula (II), then Ar is not 3,5-diphenylphenyl.

IT 861213-21-0 861213-22-1 861213-23-2
 861213-24-3 861213-25-4 861213-26-5
 861213-27-6
 RL: DEV (Device component use); USES (Uses)
 (host material for organic electroluminescent device)

RN 861213-21-0 HCAPLUS

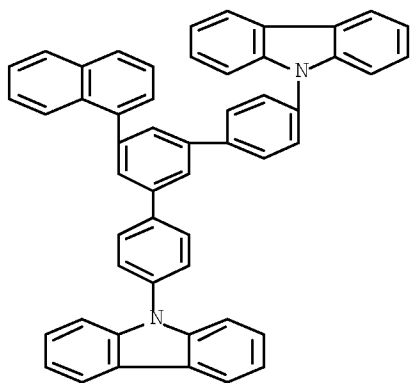
CN 9H-Carbazole, 9,9'-[5'-(2-naphthalenyl)[1,1':3',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)



RN 861213-22-1 HCAPLUS

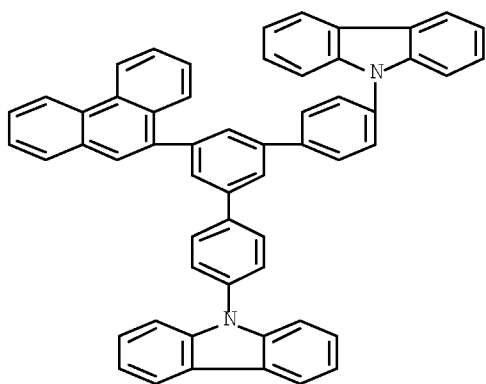
CN 9H-Carbazole, 9,9'-[5'-(1-naphthalenyl)[1,1':3',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)

10/586262



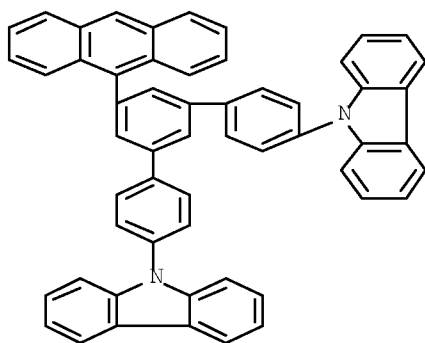
RN 861213-23-2 HCAPLUS

CN 9H-Carbazole, 9,9'-[5'-(9-phenanthrenyl)[1,1':3',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)



RN 861213-24-3 HCAPLUS

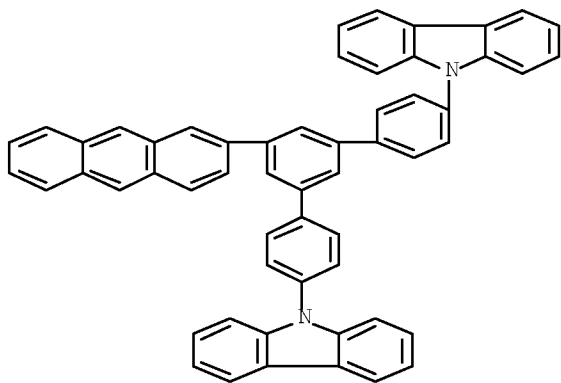
CN 9H-Carbazole, 9,9'-[5'-(9-anthracenyl)[1,1':3',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)



10/586262

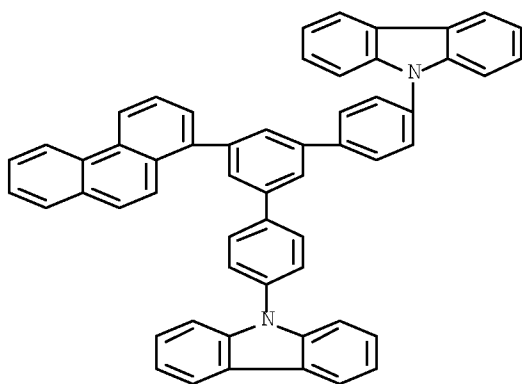
RN 861213-25-4 HCAPLUS

CN 9H-Carbazole, 9,9'-[5'-(2-anthracenyl)[1,1':3',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)



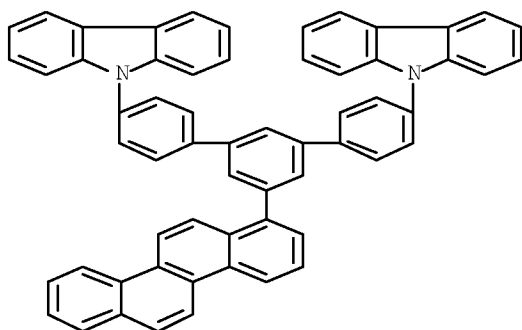
RN 861213-26-5 HCAPLUS

CN 9H-Carbazole, 9,9'-[5'-(1-phenanthrenyl)[1,1':3',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)



RN 861213-27-6 HCAPLUS

CN 9H-Carbazole, 9,9'-[5'-(1-chrysenyl)[1,1':3',1''-terphenyl]-4,4''-diyl]bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:324170 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:381934
 TITLE: Coordination metal compound, material for organic electroluminescence device, material for luminescent coating formation and organic electroluminescence device
 INVENTOR(S): Inoue, Tetsuya; Ito, Mitsunori; Ikeda, Hidetsugu; Iwakuma, Toshihiro; Hosokawa, Chishio
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 172 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005033118	A1	20050414	WO 2004-JP12427	20040823
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1659129	A1	20060524	EP 2004-772383	20040823
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1852910	A	20061025	CN 2004-80024546	20040823
US 20070009760	A1	20070111	US 2006-569420	20060223
PRIORITY APPLN. INFO.:			JP 2003-301232	A 20030826
			JP 2004-125898	A 20040421
			WO 2004-JP12427	W 20040823

AB A coordination metal compound comprising at least one spiro-bond-having ligand coordinated to a metal atom; a material for organic electroluminescence (EL)

device; and an organic EL device comprising a neg. electrode and a pos. electrode and, interposed there between, one or multiple organic thin-film layers including at least a light emitting layer, wherein at least one of the organic thin-film layers contains the above coordination metal compound or material for organic EL device. There are further provided a material for luminescent coating formation comprising an organic solvent solution containing the above coordination metal compound or material for organic EL device; and an organic EL device produced from the above material for luminescent coating formation or material for organic EL device, which organic EL device realizes high luminous efficiency and high stability during high temperature storage. Still further, there are provided, ensuring realization of the above and excelling in solubility in organic solvents, a coordination metal compound, material for organic EL device and material for luminescent coating formation.

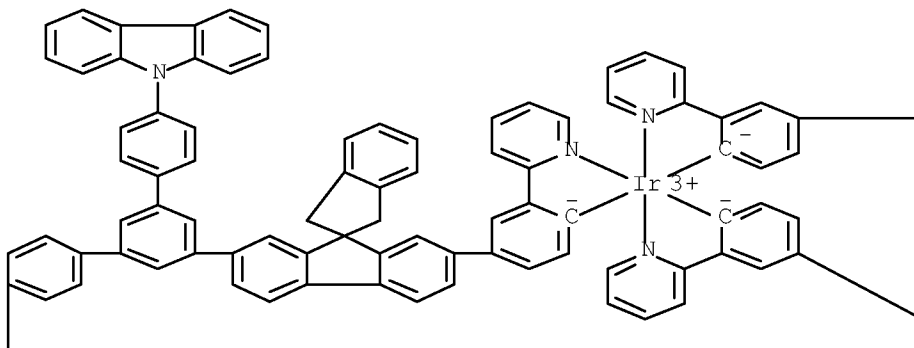
IT 849690-46-6P

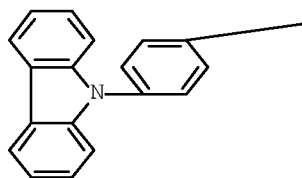
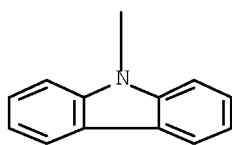
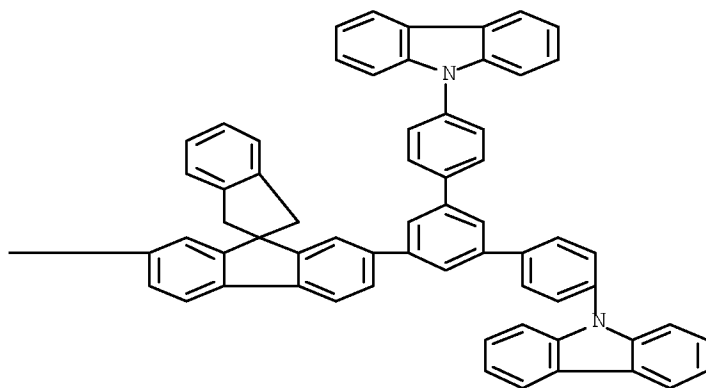
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (coordination metal compound, material for organic electroluminescence device, material for luminescent coating formation and organic electroluminescence device)

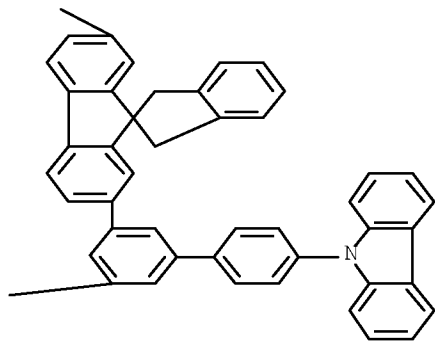
RN 849690-46-6 HCAPLUS

CN Iridium, tris[4-[7-(4,4''-di-9H-carbazol-9-yl[1,1':3',1''-terphenyl]-5'-yl)-1',3'-dihydrospiro[9H-fluorene-9,2'-[2H]inden]-2-yl]-2-(2-pyridinyl-kN)phenyl-kC]- (9CI) (CA INDEX NAME)

PAGE 1-A







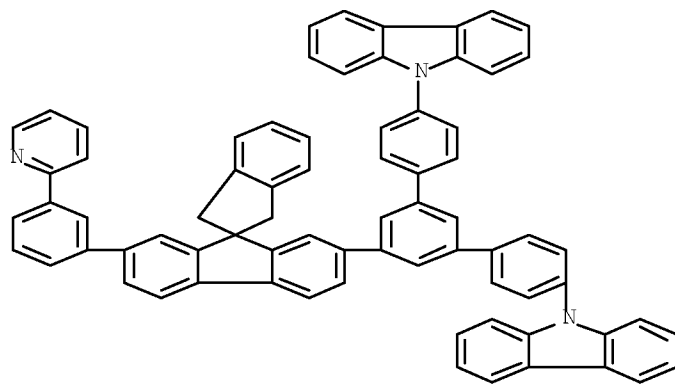
IT 849677-15-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(coordination metal compound, material for organic electroluminescence device, material for luminescent coating formation and organic electroluminescence device)

RN 849677-15-2 HCAPLUS

CN 9H-Carbazole, 9,9'-[5'-[1',3'-dihydro-7-[3-(2-pyridinyl)phenyl]spiro[9H-fluorene-9,2'-[2H]inden]-2-yl][1,1':3',1'''-terphenyl]-4,4'''-diyl]bis-(9CI) (CA INDEX NAME)



REFERENCE COUNT:

5

THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/586262

***** QUERY RESULTS *****

(BROAD SEARCH WITH DATE LIMIT/UTILITY TERMS)

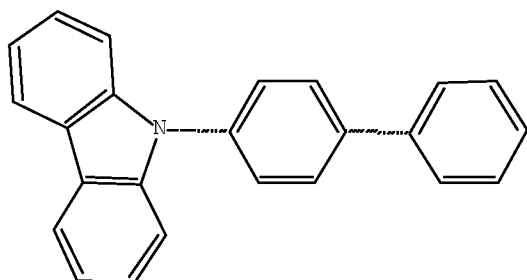
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(FILE 'HCAPLUS' ENTERED AT 13:12:07 ON 23 SEP 2008)

L19 630 S L18 AND (PY<01012005)

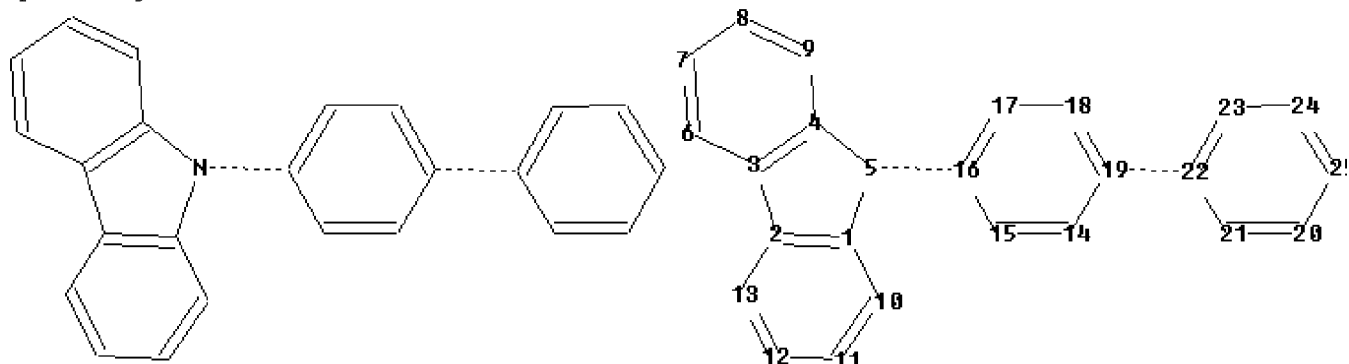
=> d que 119

L1 STR



Structure attributes must be viewed using STN Express query preparation:

Uploading L2.str



ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25

chain bonds :

5-16 19-22

ring bonds :

1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25

exact/norm bonds :

1-5 4-5 5-16 19-22

exact bonds :

2-3

normalized bonds :

1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25

isolated ring systems :

containing 1 : 14 : 20 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
 20:Atom 21:Atom
 22:Atom 23:Atom 24:Atom 25:Atom

L2	642	SEA	FILE=REGISTRY	SSS	FUL	L1	
L7	1442	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L2	
L8	293874	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	ELECTROLUMINESC?	OR LUMINESC?
L9	1354	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L7 AND L8	
L10	168048	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	LIGHT EMITT?	OR DIODE? OR OLED
L11	859	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L9 AND L10	
L12	859	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L11 AND (PY<01012005)	
L14	800	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L12 AND 73/SC, SX	
L15	71838	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	"ELECTROLUMINESCENT DEVICES"+O LD, UF/CT	
L17	32932	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	ORGANIC (L) (L8 OR L15)	
L18	630	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L14 AND L17	
L19	630	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L18 AND	
						(PY<01012005)	

10/586262

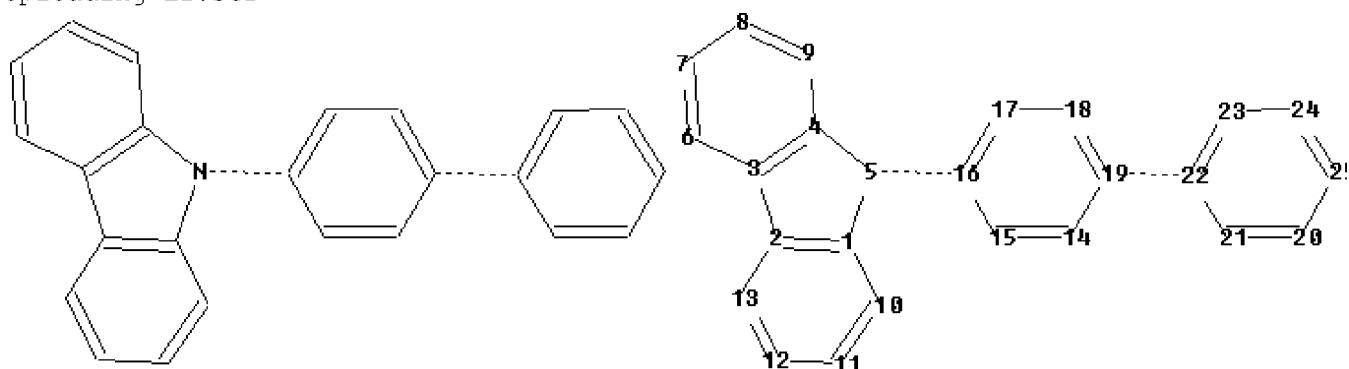
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FILE 'REGISTRY' ENTERED AT 13:09:28 ON 23 SEP 2008
ACT GAR262REGL2/A

L1 STR

Uploading L2.str



ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25
chain bonds :
5-16 19-22
ring bonds :
1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25
exact/norm bonds :
1-5 4-5 5-16 19-22
exact bonds :
2-3
normalized bonds :
1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25
isolated ring systems :
containing 1 : 14 : 20 :

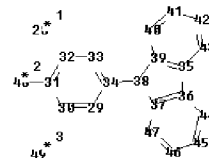
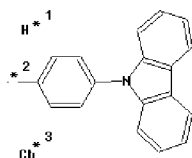
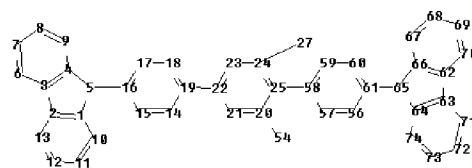
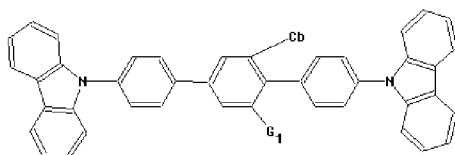
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11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom

L2 642 SEA SSS FUL L1

L3 STRUCTURE UPLOADED
D

Uploading L4.str

10/586262



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chain nodes :
27 28 48 49 54
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
56 57 58 59
60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
chain bonds :
5-16 19-22 20-54 24-27 25-58 31-48 34-38 61-65
ring bonds :
1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25
29-30 29-34
30-31 31-32 32-33 33-34 35-36 35-39 35-43 36-37 36-44 37-38 37-47 38-39
39-40 40-41
41-42 42-43 44-45 45-46 46-47 56-57 56-61 57-58 58-59 59-60 60-61 62-63
62-66 62-70 63-64
63-71 64-65 64-74 65-66 66-67 67-68 68-69 69-70 71-72 72-73 73-74
exact/norm bonds :
1-5 4-5 5-16 20-54 34-38 37-38 38-39 61-65 64-65 65-66
exact bonds :
2-3 19-22 24-27 25-58 31-48 35-36 62-63
normalized bonds :
1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25 29-30 29-34
30-31 31-32
32-33 33-34 35-39 35-43 36-37 36-44 37-47 39-40 40-41 41-42 42-43 44-45
45-46 46-47 56-57
56-61 57-58 58-59 59-60 60-61 62-66 62-70 63-64 63-71 64-74 66-67 67-68
68-69 69-70
71-72 72-73 73-74
isolated ring systems :
containing 1 : 14 : 20 : 29 : 35 : 56 : 62 :

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G1:[*1],[*2],[*3]

Match level :

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1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 27:Atom 28:CLASS 29:Atom 30:Atom 31:Atom

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10/586262

32:Atom 33:Atom
34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom 40:Atom 41:Atom 42:Atom
43:Atom 44:Atom
45:Atom 46:Atom 47:Atom 48:CLASS 49:Atom 54:CLASS 56:Atom 57:Atom 58:Atom
59:Atom 60:Atom
61:Atom 62:Atom 63:Atom 64:Atom 65:Atom 66:Atom 67:Atom 68:Atom 69:Atom
70:Atom 71:Atom
72:Atom 73:Atom 74:Atom
Generic attributes :
27:
Number of Carbon Atoms : 7 or more
49:
Number of Carbon Atoms : 7 or more

L4 0 SEA SUB=L2 SSS SAM L3
L5 8 SEA SUB=L2 SSS FUL L3
SAVE TEMP L5 GAR262REGL4/A

FILE 'HCAPLUS' ENTERED AT 13:12:07 ON 23 SEP 2008
L6 1 SEA ABB=ON PLU=ON L5
D SCAN
SAVE TEMP L6 GAR262HCAP3/A
D IBIB
L7 1442 SEA ABB=ON PLU=ON L2
L8 293874 SEA ABB=ON PLU=ON ELECTROLUMINESC? OR LUMINESC?
L9 1354 SEA ABB=ON PLU=ON L7 AND L8
L10 168048 SEA ABB=ON PLU=ON LIGHT EMITT? OR DIODE? OR OLED
L11 859 SEA ABB=ON PLU=ON L9 AND L10
L12 859 SEA ABB=ON PLU=ON L11 AND (PY<01012005)
L13 1 SEA ABB=ON PLU=ON US 20070116982/PN
D IBIB IT SC
L14 800 SEA ABB=ON PLU=ON L12 AND 73/SC,SX
E ELECTROLUMINESCENT DEVICE?
E ELECTROLUMINESCENT DEVICES/CT
E E3+ALL
L15 71838 SEA ABB=ON PLU=ON "ELECTROLUMINESCENT DEVICES"+OLD,UF/CT
L16 785 SEA ABB=ON PLU=ON L14 AND L15
L17 32932 SEA ABB=ON PLU=ON ORGANIC (L) (L8 OR L15)
L18 630 SEA ABB=ON PLU=ON L14 AND L17
L19 630 SEA ABB=ON PLU=ON L18 AND (PY<01012005)

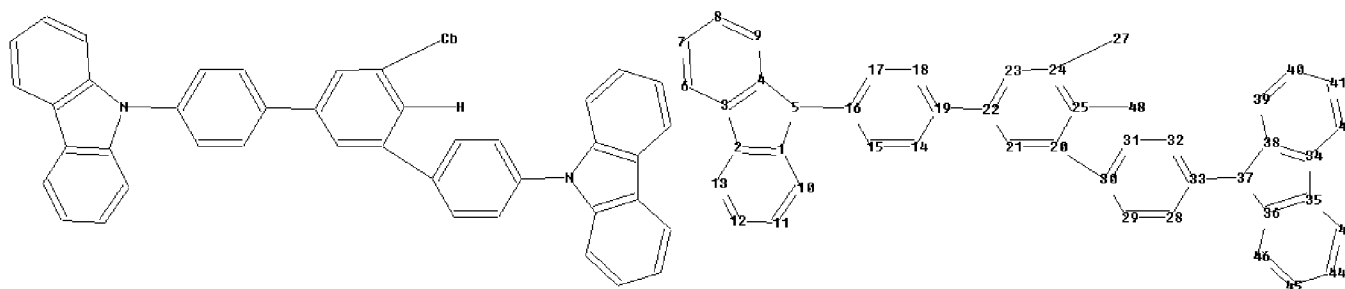
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FILE 'REGISTRY' ENTERED AT 13:26:44 ON 23 SEP 2008

L20 STRUCTURE UPLOADED
D

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10/586262



chain nodes :

27 48

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

chain bonds :

5-16 19-22 20-30 24-27 25-48 33-37

ring bonds :

1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25
28-29 28-33
29-30 30-31 31-32 32-33 34-35 34-38 34-42 35-36 35-43 36-37 36-46 37-38
38-39 39-40
40-41 41-42 43-44 44-45 45-46

exact/norm bonds :

1-5 4-5 5-16 33-37 36-37 37-38

exact bonds :

2-3 19-22 20-30 24-27 25-48 34-35

normalized bonds :

1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25 28-29 28-33
29-30 30-31
31-32 32-33 34-38 34-42 35-36 35-43 36-46 38-39 39-40 40-41 41-42 43-44
44-45 45-46

isolated ring systems :

containing 1 : 14 : 20 : 28 : 34 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom
32:Atom 33:Atom
34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom 40:Atom 41:Atom 42:Atom
43:Atom 44:Atom
45:Atom 46:Atom 48:CLASS

Generic attributes :

27:

Number of Carbon Atoms : 7 or more

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L22 9 SEA SUB=L2 SSS FUL L20
L23 9 SEA ABB=ON PLU=ON L22 NOT L5

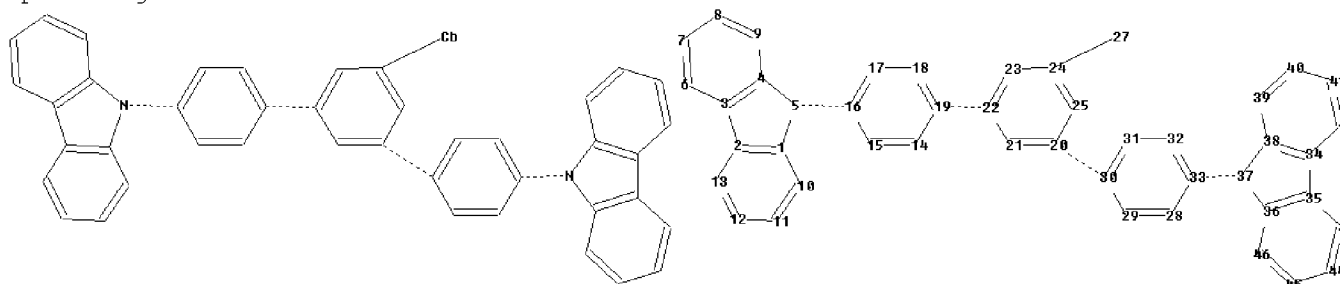
10/586262

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L24 2 SEA ABB=ON PLU=ON L23

FILE 'STNGUIDE' ENTERED AT 13:29:42 ON 23 SEP 2008

FILE 'REGISTRY' ENTERED AT 13:36:01 ON 23 SEP 2008
L25 STRUCTURE UPLOADED
D

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chain nodes :

27

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

chain bonds :

5-16 19-22 20-30 24-27 33-37

ring bonds :

1-2 1-5 1-10 2-3 2-13 3-4 3-6 4-5 4-9 6-7 7-8 8-9 10-11 11-12 12-13
14-15 14-19 15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25
28-29 28-33
29-30 30-31 31-32 32-33 34-35 34-38 34-42 35-36 35-43 36-37 36-46 37-38
38-39 39-40
40-41 41-42 43-44 44-45 45-46

exact/norm bonds :

1-5 4-5 5-16 19-22 20-30 33-37 36-37 37-38

exact bonds :

2-3 24-27 34-35

normalized bonds :

1-2 1-10 2-13 3-4 3-6 4-9 6-7 7-8 8-9 10-11 11-12 12-13 14-15 14-19
15-16 16-17 17-18 18-19 20-21 20-25 21-22 22-23 23-24 24-25 28-29 28-33
29-30 30-31
31-32 32-33 34-38 34-42 35-36 35-43 36-46 38-39 39-40 40-41 41-42 43-44
44-45 45-46

isolated ring systems :

containing 1 : 14 : 20 : 28 : 34 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom
32:Atom 33:Atom
34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom 40:Atom 41:Atom 42:Atom
43:Atom 44:Atom
45:Atom 46:Atom

Generic attributes :

27:

Saturation : Unsaturated

Number of Carbon Atoms : 7 or more

Type of Ring System : Polycyclic

L26 0 SEA SUB=L2 SSS SAM L25
L27 9 SEA SUB=L2 SSS FUL L25
L28 9 SEA ABB=ON PLU=ON L27 OR L23

FILE 'HCAPLUS' ENTERED AT 13:37:34 ON 23 SEP 2008
L29 2 SEA ABB=ON PLU=ON L28
D SCAN TI
D AU 1-2

FILE 'REGISTRY' ENTERED AT 13:38:16 ON 23 SEP 2008
SAVE TEMP L23 GAR262REGL5/A
SAVE TEMP L28 GAR262REGL6/A

FILE 'HCAPLUS' ENTERED AT 13:39:28 ON 23 SEP 2008

FILE 'STNGUIDE' ENTERED AT 13:41:35 ON 23 SEP 2008
D QUE L6

FILE 'HCAPLUS' ENTERED AT 13:42:07 ON 23 SEP 2008
D L6 IBIB ABS HITSTR

FILE 'STNGUIDE' ENTERED AT 13:42:08 ON 23 SEP 2008
D QUE L29

FILE 'HCAPLUS' ENTERED AT 13:42:58 ON 23 SEP 2008
D L29 1-2 IBIB ABS HITSTR

FILE 'STNGUIDE' ENTERED AT 13:42:59 ON 23 SEP 2008
D QUE L19